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The Pottery of the Casas Grandes District, Chihuahua

By

A. V. KIDDER

(Extract from the HOLMES ANNIVERSARY VOLUME)

Washington
1916

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The Pottery of the Casas Grandes District, Chihuahua

By A. V. KIDDER

THE Casas Grandes district in northern Chihuahua was the center of what seems to have been the southernmost of the ancient Pueblo cultures. The writings of Bartlett,[1] Bandelier,[2] Lumholtz,[3] and Hewett[4] give us general descriptions of the main Casas Grandes ruin and of numerous mounds in the vicinity; in Lumholtz' book there is a series of fine colored plates of the pottery. Little, however, has been done toward a classification of the wares or an analysis of their elaborate decorative system.

The present paper, which is intended as a start in this direction, consists of a study of the Phillips collection in the Peabody Museum of American Archaeology and Ethnology at Cambridge. In it there are one hundred and ninety pieces of pottery, excavated principally at Janos, Ramos, and Corralitos, all of which are localities in the Casas Grandes region. Other collections examined, though unfortunately very hastily, were those in the Museum of the American Indian, the American Museum of Natural History, and the Fred Harvey Museum at Albuquerque, New Mexico. With the exception of the American Museum collection, which was made by Lumholtz, all these specimens were acquired by purchase in lots from local diggers and are accompanied with few or no data. It appears, however, that most of the vessels were mortuary offerings recovered from graves under the floors of the ruined houses.

The pieces fall into the following general classification:

1. Rough dark ware.
2. Polished blackware.
3. Redware.
4. Painted ware.

ROUGH DARK WARE

This class is not represented in the Peabody Museum collection, but among the Lumholtz specimens in the American Museum are

[1] Personal Narrative, vol. II, chap. xxxv.
[2] Final Report, chap. xiv.
[3] Unknown Mexico, vol. I.
[4] Communautés Anciennes, chap. 8.

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fragments of a few coarse, dark-brown to rusty-black vessels, apparently of olla form. The smaller pieces, being thin-walled and much blackened with soot, were probably used in cooking; the larger ones have walls nearly half an inch thick and must have been two feet to two feet six inches in height. These heavy fragments are not sooted and are probably parts of capacious jars for storage or for holding water. The paste of all the sherds is dark-brown, coarsely tempered in most instances with bits of pounded quartz; there is no slip, and while the surfaces are rough, they show no trace of corrugation.

POLISHED BLACKWARE

These pieces, of which there are sixteen in the Phillips collection, are jet-black in color and have a highly polished, lustrous surface. Technically they are identical with the well-known polished blackware made today at Santa Clara pueblo, New Mexico, and are doubtless the product of the same smothered-fire process of burning used at that village.[1] The commonest shape is a full-bodied bowl with incurved rim (pl. 1, fig. 6); there are also small jars with flaring lips, bearing two horizontally perforated suspension lugs. Some of the jars have vertical flutings on their sides (pl. 1, fig. 8), a feature also found on similar forms made at Santa Clara. While one small piece (C-3999) bears added ornament in the form of knobs and ridges crudely imitating the wings and tail of a bird,[2] and another (Mus. Amer. Ind. $\frac{8}{9819}$) is double-lobed, the blackware in general does not run to eccentric forms; this is undoubtedly due to the fact that the polishing stone, the use of which was, of course, essential for the production of the lustrous finish, could be employed only on gently curving surfaces free from protuberances or abrupt changes of angle. The above is a very good example of the influence of technical processes in the development of vessel forms.

REDWARE

Technically this ware is comparable to the black, was probably made of the same clay, and differs from it only in not having been polished so highly nor subjected to a smothered firing. The base is yellowish brown, considerably darker than the base of the painted ware; broken pieces show (in common with most other Southwestern pottery that has been burned at low fire) a central streak of gray.

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[1] See Hewett, op. cit., p. 77; and for the chemistry of the process, Franchet, Céramique Primitive.

[2] This little object and another like it were apparently used as whistles. Such instruments made of pottery are not found, so far as I know, elsewhere in the Southwest.

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RED, BLACK, AND PAINTED WARE

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Tempering consists of tiny, light-colored particles, presumably ground potsherds. Visible surfaces are generally coated with a rich red slip that has been polished on areas free from added ornament, handles, etc., with the rubbing stone.

Shapes (pl. 1, figs. 1–5 and 7).—Unlike the black, the redware occurs in so many different shapes that a classification is practically impossible. There are several tiny bowls one to three inches in diameter; many small jars with outcurved lips, no two of which are of exactly the same form; and a few larger jars with rather fat bodies. Besides these more ordinary types there are double pots connected by hollow bars and arching handles (pl. 1, fig. 1); small, plain-bodied pieces with high handles (pl. 1, fig. 4); double-lobed jars; small-mouthed bottles (a shape of great rarity in the Southwest); and jars with snakes (pl. 1, fig. 7), pairs of frogs (Mus. Amer. Ind. $\frac{4}{8848}$), or unidentifiable animals modeled on their sides. Tiny ladles copied evidently from gourds split lengthwise (Mus. Amer. Ind. $\frac{4}{8406}$), and small flat jars in the form of squashes (Am. Mus. $\frac{8}{4181}$, Rancho San Diego), are conscious imitations of vegetal forms.

The *decorations* of the surfaces of redware vessels are no less varied than are their shapes. A few pieces are plain polished red; on others polished areas are opposed by figures or areas left unpolished or even in the lighter colored, unslipped base clay. A dull-black paint is occasionally used to contrast with the polished red, or is applied independently in bands or roughly drawn stepped figures.

Aside from color variations there were employed a great number of different methods for texturing parts of the surfaces of vessels. Some of these were: the leaving unsmoothed of the original structural coil (pl. 1, fig. 3); incising, (pl. 1, fig. 1), both heavy and light; gouging; scoring with a stick; marking in small circles with the end of a reed or hollow bone; indenting with the fingernail; and scraping with a rough-edged tool, possibly a corncob. The most interesting of these devices is the leaving of the coil; this shows us how the vessels were made, and also provides an example of the retention of coiling for decorative purposes after it had been abandoned on the cooking wares.

PAINTED WARE

Technology.—Painted ware forms about 70 per cent of the collection. It is made of light-colored clay of such good quality that an outer covering or slip was usually dispensed with.[1] Where it occurs it is of a whitish color, is soft and crumbly, and often partly wears

[1] This is an unusual feature in Southwestern pottery, being found commonly only here, in the ancient Hopi ruins (Sikyatki, etc.), and in the finer black-and-white ware of the Kayenta district.

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away, carrying with it the design painted over it. Tempering material is scanty, appearing in the form of fine granular bodies, which seem to consist of ground-up sherds. There are also in many pieces tiny particles of pyrites, some of which, appearing on the surface, have given rise to the popular belief that this ware was made of gold-bearing clay. The color of the vessels varies somewhat according to the amount of iron in the paste and the degree of heat developed in firing; the shades range from dead white (rare) through cream color, to an almost lemon yellow, the commonest tone being a warm yellowish gray.

The outer surfaces of the pots are well smoothed, presumably with the rubbing stone; but a glossy polish, such as is seen in the blackware, was very seldom produced.

Shapes, Jars.—By far the commonest form is the jar, a vessel of every characteristic shape, not regularly duplicated elsewhere in the Southwest (pl. 2, figs. 2, 10, 11). The pieces average about 7½ inches high and have a capacity of 1½ to 2 gallons.[1] There is one specimen in the collection (C-4329) that is nearly 15 inches high, but in general the divergence from the average size is slight. Typical features are: high, gently sloping upper body; rounded shoulder; full, round bottom; and point of greatest diameter set very low. The rim is slightly outcurved, ending in a plain round lip. To the rim are occasionally added a pair of horizontally perforated lugs, and many of the smaller examples have opposite pairs of suspension holes, apparently made by pushing a small reed through the rim while the clay was still soft.

A few jars do not follow the standard form, having high necks,[2] or globular bodies; in general, however, the type is a remarkably constant one and is not only the predominant simple form but serves as the basis, so to speak, for many of the effigy vases, which were made by the addition of various sorts of plastic ornament to the sides or rims of standard jars.

Effigy vases of one kind or another make up nearly ten per cent of all the painted specimens; this high ratio of modeled to plain pieces is not approached in any other Southwestern culture.[3] A general classification follows:

1. Examples with plastic features added to the sides of standard jars.
2. Examples with heads of animals, birds, or human beings added to the rims of standard jars.
3. True effigies.

[1] The average dimensions of twenty-five pieces are: ht. 7.47″; great. diam. 8.34″; orif. 4.60″.
[2] Lumholtz, pl. v, *f*.
[3] The percentage of effigies in the collections of the American Museum of Natural History and the Museum of the American Indian is not quite so high as in the Peabody collection.

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PAINTED WARE

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The most characteristic pieces of the *first class* are jars which bear on opposite sides two bird-heads modeled in the round (pl. II, fig. 7), or the head on one side and a conventional tail on the other (pl. II, fig. 9). The birds are evidently some species of parrot, and the portrayal is fairly realistic, showing the heavy upper mandible, the smaller lower one, and the tongue. The representation is completed by the use of paint, the eye being indicated by a black circle containing a dot; the top and sides of the head are colored red, the throat and lower mandible black. When the tail takes the place of a second head it consists of a flat, horizontal projection with little or no attempt at naturalism. Other pieces with added sculptures in the round are

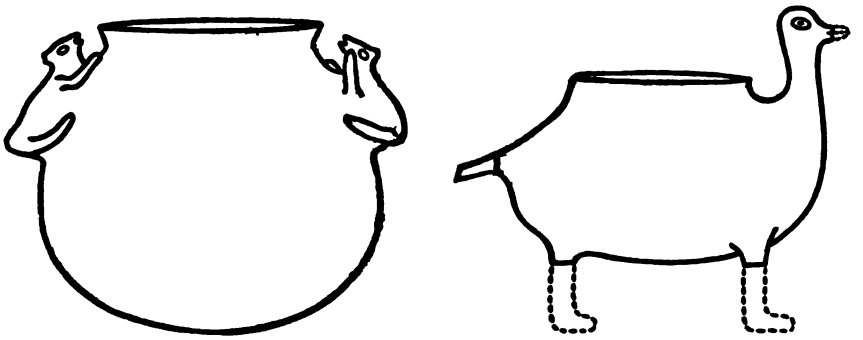

FIG. 1.—Plastic ornament.

shown in figure 1. The former has two crouching animals under the rim; the latter presumably represents a quadruped, although the head is somewhat birdlike.

Also formed by additions to standard-shaped jars but with their parts in low relief rather than in the round, are examples such as appear in plate II, figures 1 and 4. Number 4 is an arrangement of two serpents so coiled about the vessel as to cover its entire surface and end with their heads on opposite sides. The bodies and heads are formed, partly by repoussé work, partly by building up on the outside. The other example (pl. II, fig. 1) has a human face in low relief on each side of a rather stout standard jar. In this case there is no repoussé work, the features merely having been added to the rounded wall of the vessel. Brows, ears, eyes, nose, mouth, and chin are built up from the surface, pinched or modeled into some semblance of naturalism, and picked out with paint. Both the mouth and the eyes are made by cutting a shallow horizontal groove in an applied oval pellet of clay. Plate I, figure 10, shows a second specimen of this type; the eyes of this one are small, round protuberances; the pupils are indicated by dots of paint.

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The *second group* of effigy vases is much more homogeneous than the first. All the pieces are made in the same way and differ from each other only in details of the representations. In construction they are very simple; half the rim of a standard jar is carried up and partly over the orifice in a kind of hood (fig. 2). The hoods are modeled, by repoussé work and by the addition of lumps and strips of clay, into surprisingly life-like head-portraits of human beings (see pl. II, figs. 5 and 8, and pl. III, figs. 1, 3, 7, 9), animals (pl. I, figs. 11 to 14), birds (pl. I, fig. 9). The photographs show better than can any description the character of these vases. It should be noticed, however, that the shape and decoration of the bodies of the pots are the same as in standard jars. Only in the pot shown in plate I, figure 14, where between regular design panels there are painted the forelegs of the animal whose head appears on the rim, is there any attempt at introducing zoic features into the body decoration. The painting on the heads is a mixture of lines, dots, and bits of color, intended to heighten the realism of the representation; and geometrical elements borrowed from the regular design system and introduced to fill spaces, such as foreheads and cheeks, which would otherwise have remained blank.

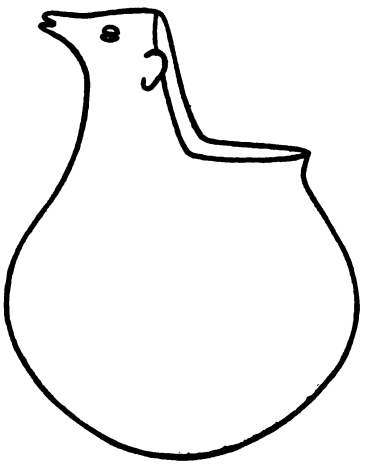

FIG. 2.—"Hood-effigy."

The *true effigies* (third group), of which there are six in the collection, all represent human beings (pl. III). The bodies are squarish and are shaped with a heavy sort of naturalism to suggest the human torso; the division of the buttocks is indicated on the back, the breasts protrude in front, the upper parts of the legs are hollow, and the heads are built up on the rim in hoods like those of the preceding class. All other features are made by surface modeling with strips or lumps of clay (as lower legs, arms, ears, etc.), details being brought out by incisions (as in the fingers and toes), by painting (eyelashes, brows), or by a combination of the two (eyes, mouths). The figures sit with the legs straight out (pl. III, figs. 5, 8, 12), squat with the knees drawn up (pl. III, fig. 2), or with one leg doubled under (pl. III, fig. 10). All are nude, for the decorations which are placed wherever there is a flat blank space do not suggest any known form of body covering; and the realistic portrayal of the breasts, nipples, and genitals argues

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HUMAN EFFIGIES, PAINTED WARE

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against the intended representation of clothing. Various marks on the bodies and limbs, and particularly on the faces, may perhaps depict tattooing or body-painting. Of this the reader may best judge for himself from the plate, but it should be remembered that the Casas Grandes artists, like all other Puebloans, had a deeply rooted "horror vacui" and could seldom bear to leave any visible space entirely free from decoration.

There are four single and two double effigies. Of the single ones, two are male, two female. Of the male figures, one (pl. III, fig. 2) squats in a very natural attitude and holds to his mouth some object which he appears to be chewing. The lower part of the back is enlarged into a prominent hump covered by a kind of spiderweb decoration. The second example (pl. III, fig. 10) is one of the largest and best modeled; the eyes and the face-markings are noteworthy; there is no hump. The small female figure (pl. III, front fig. 5; side fig. 8) is also very well made; the larger one (pl. III, back fig. 11; front fig. 12) is decorated in black alone over an unusually light-colored base. The eyes, mouth, and nipples are touched up with black, and the top and sides of the head are painted black, presumably to represent hair. The subject is obviously pregnant.

The figures in the double effigies (pl. III, figs. 4 and 6) squat side by side and are connected by hollow bars. Each pair consists of a male and a female. The former bear on their backs distinct humps which suggest the humpbacked erotic figure of Kokopelli illustrated by Fewkes.[1]

The modeling and decoration of the bodies do not differ in general plan from that of the single effigies except for the fact that the legs and sides of both males and females are painted with large black spots and that their arms and lower legs are colored black.

Some of the structural details should be noted, as they may eventually prove to have classificational value.[2] There were two methods of making eyes: in one a low oval mound of clay was applied to the rounded surface of the face and was crossed by a simple horizontal cut painted black (mouths were similarly represented); the second way was to make a somewhat rounder mound, outline it in black with a trailer from the corner, and indicate the pupil with a black dot. The ears are curved ridges touched up with paint. Hands and feet were made plain and then so gashed with a sharp implement as to bring out the separations between fingers and toes.

Bowls.—The large, shallow food-bowl, so common in most South-

[1] *Twenty-first Ann. Rep. Bur. Amer. Ethnol.*, pl. XXV.
[2] Cf. Spinden, Archeology of Salvador, *Amer. Anthr.*, N. S., vol. 17, 1915, p. 469 and fig. 74.

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western districts, is not represented in any of the collections examined. Casas Grandes bowls are all very small and generally deep. Of the twenty-two examples in the Phillips collection the largest is 8 inches in diameter and 4 inches deep; there is an almost perfect gradation in size from this example to ones not more than an inch across. The deep bowls are ornamented only on the exterior, the shallow ones both inside and out. The general scheme of decoration follows that of the jars, although the difference in shape produces a somewhat different arrangement of the elements.

DECORATION

The decoration of the commonest single form, the jar, may be taken as the standard; other vessels, be they effigies or bowls, are ornamented with what are evidently parts of jar designs or with single elements taken from them.

Pigments.—The painted designs are usually polychrome, black and red figures on a light background. The black paint, though occasionally of a clear sharp tone, more often has a rusty-brown tinge. The pigment on a few pieces shows a slight luster or semi-glaze, and two specimens (C-4403, C-4272) bear designs in well-marked dark-green glaze not distinguishable from that of certain Little Colorado vessels. Whatever the nature of the normal black paint, it evidently flowed freely and evenly from the brush, for the lines of the decoration, even where long and very thin, are singularly sharp and well sustained.

The red, of a rich dark-scarlet shade, is almost always a secondary pigment used to fill spaces inclosed by black lines, to set off black elements and in general to enrich or liven up the pattern. (For colors Lumholtz' fine plates should be consulted.) It is softer than either the black or the surface of the ware and is consequently often partly rubbed and worn away.

Design.—In looking at a collection of Casas Grandes pottery the qualities that first strike one are the richness of the colors and the delicate accuracy of the delineation. The richness of color is due to the mellow, old-ivory tints of the background and the harmonious combination of the dark reds and subdued blacks of the decoration. The accuracy of delineation is emphasized by the use of numbers of long, thin framing lines, drawn with surprising precision and most evenly spaced. These framers must be considered first, as their production was the initial step in the decoration of the vessels; they served to lay off the fields of design and to build the framework, so to speak, for the completed pattern.

The surface of a standard Casas Grandes jar is generally treated

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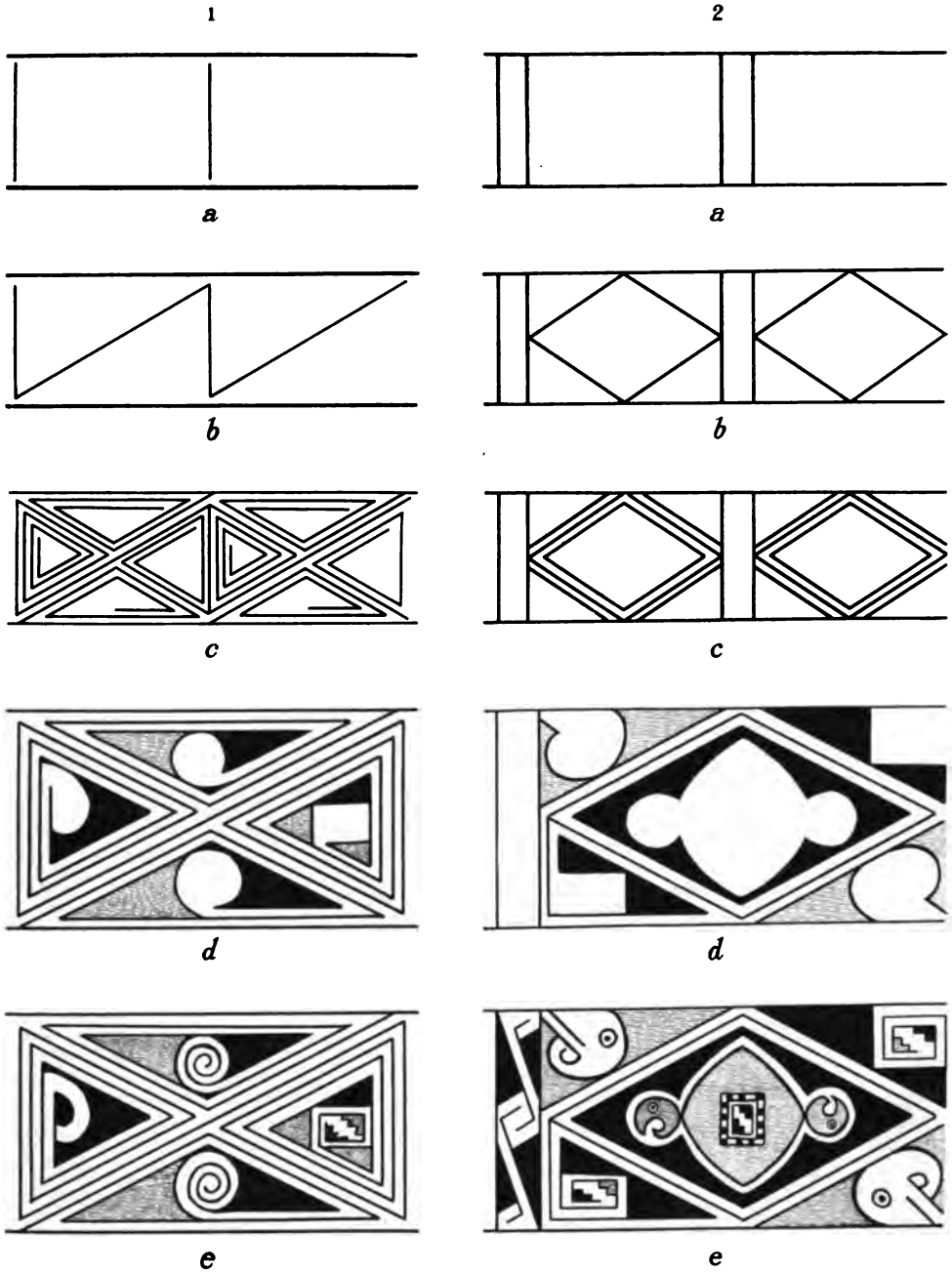

STRUCTURE OF RECTILINEAR DESIGNS

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as a single broad horizontal band, extending from just below the outcurve of the rim to a point well below the shoulder. (See pl. II, figs. 10 and 11.) It is inclosed at top and bottom by pairs of unbroken

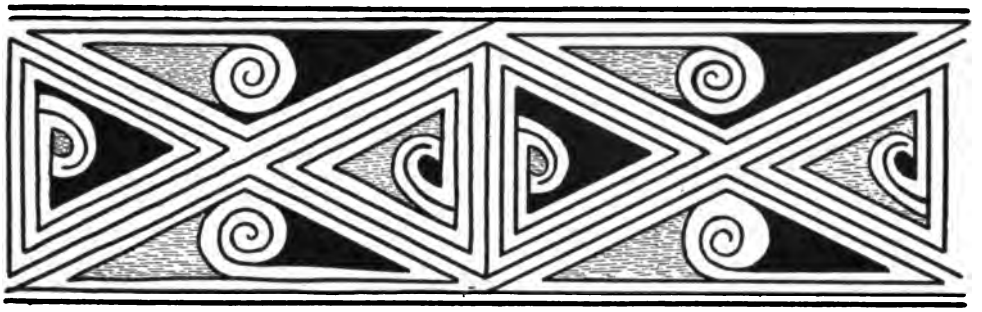

FIG. 3.—Rectilinear pattern.

framing lines.[1] The upper line of the upper pair and the lower line of the lower pair are always free; the inner lines of the two pairs often serve as base-lines from which spring secondary framing lines that cut the band into its various subdivisions.

Rectilinear Style.—Figure 3 shows the whole decoration of a typical jar. It will be noticed that the ornament repeats itself once. This duality in design is very strictly adhered to in all phases of Casas Grandes art. For reducing the original band-like decorative surface into the smaller fields only three methods are at all commonly practised. The *first*, shown in the above-mentioned figure, in the skeleton cut (fig. 4) and on plate IV, figure 1, consists of drawing horizontal lines on the two opposite sides of the vessel and connecting their respective tops and bottoms with diagonals. In the *second* method the preliminary bars are drawn as before, but the two resultant spaces, instead of being subdivided by diagonals, are filled by diamond-shaped figures as shown in the skeleton cut (fig. 5) and on plate IV, figure 2. Designs of the *third* class are laid off by drawing about the vessel a two-pointed zigzag, producing four triangular fields (fig. 6, and pl. II, fig. 11). In some very elaborately decorated vessels the preliminary, laying-off lines are so

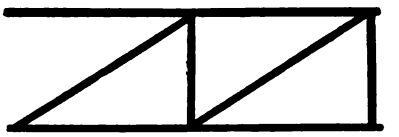

FIG. 4.—Type I.

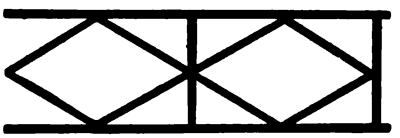

FIG. 5.—Type II.

[1] The "line-break" does not, so far as I know, occur on any Casas Grandes vessel.

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expanded as to become intensively ornamented bands (pl. IV, fig. 2, *e;* pl. II, fig. 2).

It is clear that the object of the preliminary dividing up of the decorative space is to reduce it to a number of triangular spaces. This done, there follows a secondary laying off, which is merely a carrying on of the same process (pl. IV, fig. 1, *c*), and still smaller triangular fields are produced; these contain the actual units of the design.

These *elements* (or units of design) are of three types: opposed stepped figures (pl. V); single or double scrolls (pl. V); the club-shaped element (pl. VI). The plates of photographs should also be consulted.

The *opposed stepped* figures are, of the three, the most typically Southwestern. In general they are distinguishable from other Pueblo elements of the same kind by: (1) the fact that the two figures are in opposed colors (red and black); (2) the fineness and accuracy of the delineation and the sloping character of the "steps"; (3) by the unusual practice of mounting both figures on a single "stalk" (pl. V, figs. 1 and 3).

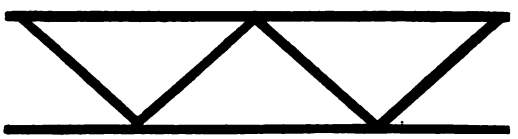

FIG. 6.—Type III.

Of the *scroll*, the figures (pl. V, figs. 6 and 7) give a better idea than can be gained by description. In its most characteristic and abundant form (pl. II, fig. 10) it is the core, so to speak, of a triangular field and consists of a single line curving in on itself. This arrangement is, so far as I know, not found elsewhere in the Southwest. Interlocking scrolls arranged in band form (pl. V, fig. 8) are much less common; this type, as distinguished from the first, is found on the pottery of practically every Pueblo district.

FIG. 7.—Serpent. (Museum of the American Indian.)

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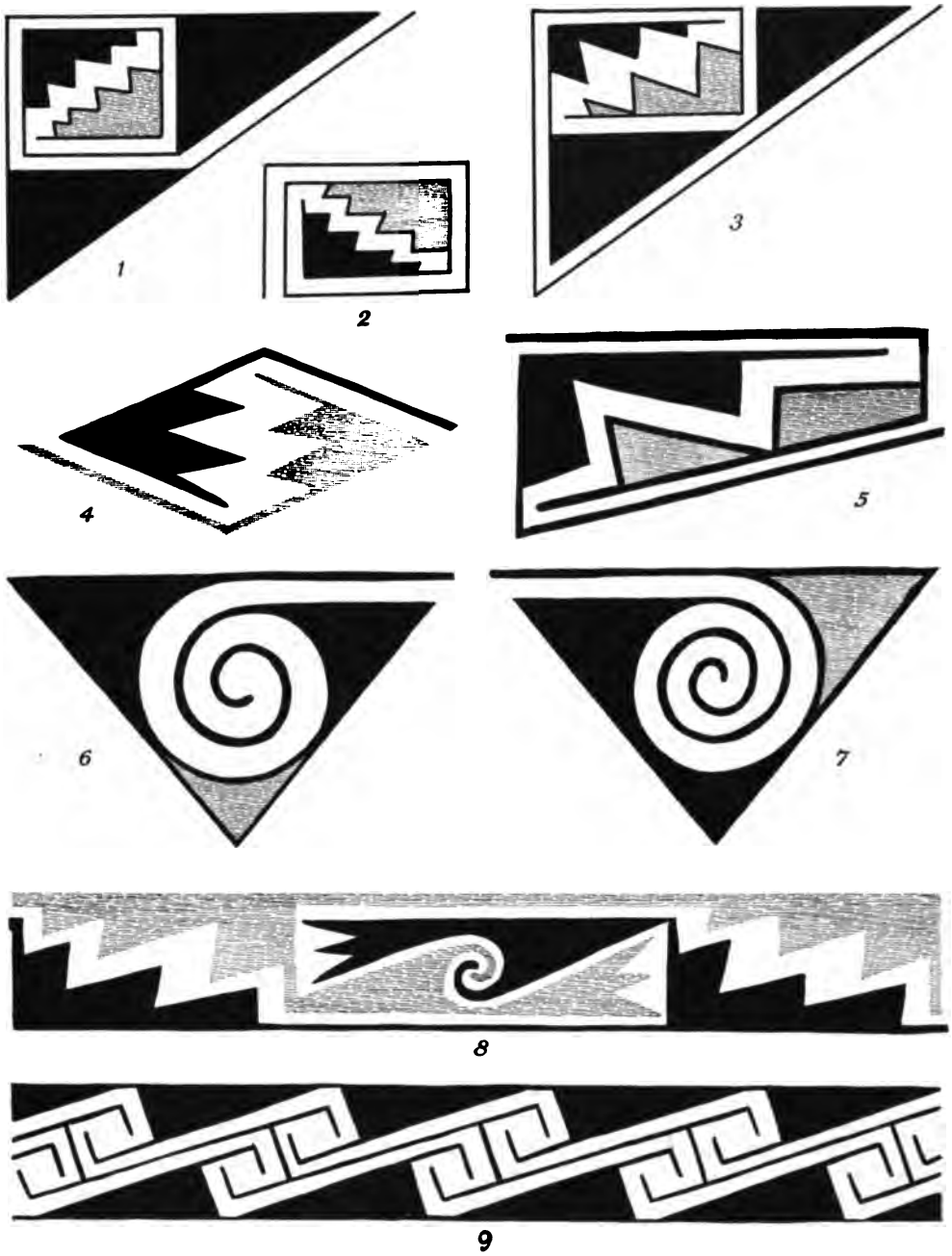

ELEMENTS IN RECTILINEAR DESIGNS

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For an understanding of the *club-shaped element*, recourse must be had to the drawings and photographs (particularly pl. VI), as a clear verbal description of it is quite impossible. Its simplest and also its commonest form is illustrated by plate VI, figures 1 to 5 inclusive, where it consists of a club-like object surrounded by a curved open space. Figures 6 to 9 inclusive are almost the same, but have a line (6, 7) or an ornamented band (8, 9) entering the open space and curling about the central figure. In these two series the emphasis is on the black or positive part of the design; in the rest of the examples, however, the emphasis is shifted, the black parts, particularly the club-shaped elements, no longer form the positive part of the

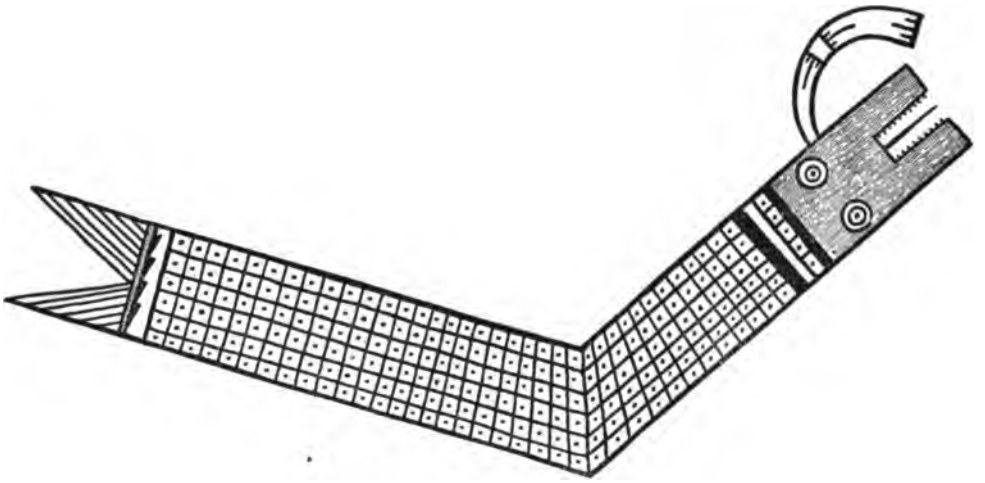

FIG. 8.—Serpent. (Museum of the American Indian.)

design but serve merely so to cut the fields as to bring out the features of a design in the base color. This method may be called negative or background drawing. Of the negative drawings on plate VI, some (12, 13, 14, 19, 21, 22, 24) obviously represent life forms; others (15, 16, 17, 18) may be merely decorative.

To discuss all the questions raised by this interesting group would require more space than is available. One line of inquiry may, however, be indicated. To begin with, it can hardly be doubted that all the figures on plate VI are closely related. Some of them convey no impression of naturalism; others are fantastic, but none the less convincing, representations of life-forms; a third lot (11, 12, etc.) are intermediate. Furthermore there are on Casas Grandes pottery truly naturalistic drawings of birds, human beings, and serpents (see pl. VII), in the make-up of which certain elements from our "club-complex"

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play a not unimportant part. (Compare tail of bird, pl. VII, fig. 2, with pl. VI, figs. 13, 14, 23, etc.; plume of serpent, text fig. 9, with pl. VI, fig. 9, etc.)

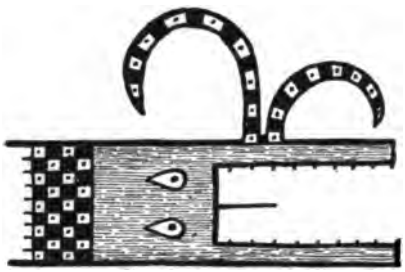

FIG. 9.—Serpent. (American Museum.)

Here, then, we have a very complete series from passably free naturalism (pl. VII, figs. 1 to 5), through more and more highly conventionalized forms (pl. VI, figs. 12 to 22), to true geometric elements (pl. VI, figs. 1 to 11), which last would thus appear to have been reduced to "part for the whole" representations of the bird (by means of the beak or the tail), or the plumed serpent (by the plume).

That we should recognize in this series a case of conventionalization is, to my mind, very doubtful, because nowhere in Southwestern art is there any evidence that such a conventionalization has ever taken place. On the contrary, wherever, as in the case of Upper Rio Grande pottery, a true developmental series can be studied, the trend seems to have been uniformly in the reverse direction, namely, toward realization from geometric origins.

I am inclined to think, therefore, that the club-like element is geometric in origin, derived in some way yet to be worked out from the scroll or possibly from the stepped figure; and that its lifelike forms are due to the discovery that the addition of eyes and the indication (by short entering lines, pl. VI, figs. 13, 14, etc.) of tail-feathers would produce quaint and pleasing designs which resembled birds and reptiles familiar in their life or mythology The peculiar and, in the Southwest, almost unique practice of negative or background drawing may perhaps eventually be traced to the use of derivatives of the club-like element.

The questions just discussed cannot, however, be settled with any reasonable certainty until we know something as to the sequence of pottery types in the Casas Grandes region. The difficulty with the collections at present available is that they probably contain both early and late specimens, and we have no way of determining which is which.

Small *triangles with crooked appendages* (pl. V, fig. 9) are often found on the vessels with rectilinear decoration. They seldom form integral parts of the designs as do the three elements just considered, but serve to fill narrow bands (pl. II, fig. 1) to supply edgings to larger ornaments, or to occupy small spaces upon the various types of effigy

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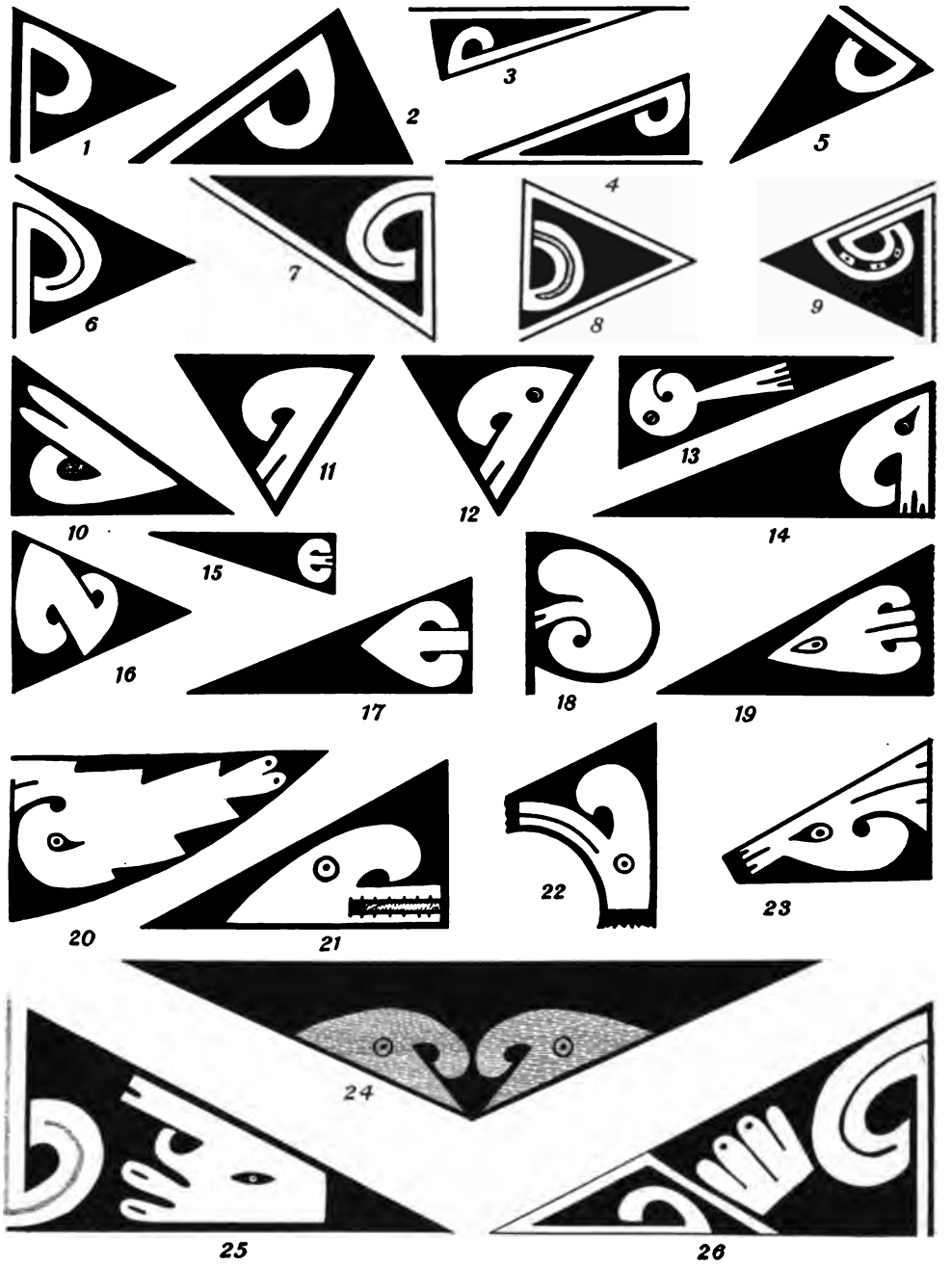

CLUB-LIKE ELEMENT AND ALLIED SYMBOLS

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vases (pl. III, figs. 1, 5, etc.). They usually occur in pairs interlocking, in series along a line, or in double series with a current design filling the interspaces between them (pl. V, fig. 9). A triangle with an appendage of one sort or another drawn from its apex and in line with its longer side is a unit used almost universally in Southwestern decoration. This particular form, however, seems to be restricted to the polychrome ware of the lower Gila,[1] to the later Little Colorado wares,[2] and to the red Pajaritan pottery of the upper Rio Grande.[3]

Life forms are considered here because they seem always to be associated with designs of the rectilinear style.

Plumed Serpents.[4]—Painted representations of these mythical monsters are not common. There are: one (pl. II, fig. 4) in the Peabody Museum; four in the American Museum, and three in the Museum of the American Indian. The Peabody specimen has been described and figured with the effigy vases; on it the serpents cover the whole surface of the vessel and are executed in relief. The other examples are painted flat. In most cases there are two serpents, one on each side, the heads and tails nearly meeting. Each serpent is bent in the middle so that the two together form (or the single serpent if there be but one) a zigzag about the middle of the vase (cf. figs. 7 and 8, and Lumholtz, p. 94 and pl. II). The rest of the decorated surface is occupied by the familiar elements of rectilinear design.

The figures themselves form narrow bands occupied by geometric decoration, the most constant feature of which is one kind or another of dotted checkerboarding. The figures here given, together with those of Lumholtz just referred to, and those in Spinden's *Maya Art* (p. 241), illustrate all the serpents now in accessible collections. Though they differ in details their similarities are obvious and need not be listed here. The common association of the bird with the serpent on these vessels (cf. Lumholtz, pl. II) is interesting.

Birds are all produced by negative drawing and are of fairly life-like appearance. As they usually occur on the same vessels as do the serpents there seems to have been some connection between the two in the minds of the artists. Plate VII shows a representative series of them, figure 3 being from a pot in the Deseret Museum, Salt Lake City. They are always fitted into rectangular or triangular panels. While the species cannot be identified, it seems clear the representations are of some small crested bird like the California quail rather

[1] Fewkes in *Twenty-eighth Ann. Rep. Bur. Amer. Ethnol.*, figs. 46, 47.
[2] See plates in Fewkes, *Twenty-second Ann. Rep. Bur. Amer. Ethnol.*
[3] Kidder in *Memoirs Amer. Anthr. Asso.*, vol. II, no. 6.
[4] For the first notice of this form on Casas Grandes pottery, see Saville in *The Archæologist*, II, pp. 291–293. See also Spinden, Maya Art, p. 241.

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than the parrots that are presumably portrayed in the round on effigy pots (pl. II, fig. 7) and painted in at the corners of certain diamond-shaped fields in rectilinear class 2 designs (pl. V, fig. 2, *e;* pl. III, fig. 9).

Human Figure.—Only one instance of the representation of the human form has come under my notice.[1] It occurs in the form of two similar panels in background drawing on opposite sides of a standard jar (pl. VII, figs. 5 and 7). The presence of a form of the club-like element as a filler in one of the examples (fig. 7) should be noted.

Curvilinear Decorations.—These are distinctly uncommon, but the few examples which do occur conform closely to a single type. The skeleton cut (fig. 10) and the photograph (pl. II, fig. 6) illustrate the style more clearly than can be done by verbal description. The heavy black delineating line with its curved terminations, and the contrasting with it of hatched ribbons, both strongly suggest the ornamentation of certain black-and-white pitchers from the Tularosa-Socorro district of southern New Mexico.

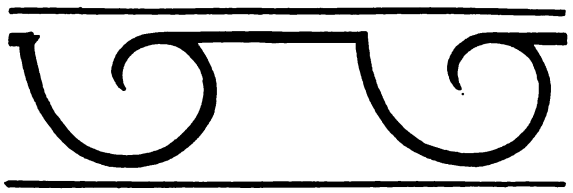

FIG. 10.—Curvilinear framework.

Gila-like Vessels.—Plate II, figure 3, shows one of four or five specimens in the Casas Grandes collection that in color and ornamentation seem to show analogies to the polychrome ware of the lower Gila.[2] The painted figures are much more coarsely executed than is usual at Casas Grandes; red is employed as a kind of secondary background; and the minor elements, such as the fringed line, the hatching, and the stepped figures do not conform to like elements in the local style. As the clay appears to be the same as that used at Casas Grandes and the line-break (always present in Lower Gila decoration) is missing, we are led to believe that these pieces are copies rather than importations.

RELATIONSHIPS

Because of our limited knowledge of the ceramics of northern Mexico, this paper, of necessity, has been descriptive rather than comparative. Some remarks on the place of Casas Grandes ware in the general archeological scheme may, however, not be out of place.

[1] Aside from the peculiar anthropomorphic serpent figured by Spinden, loc. cit.
[2] A piece is also figured by Lumholtz (op. cit., pl. III, *e*).

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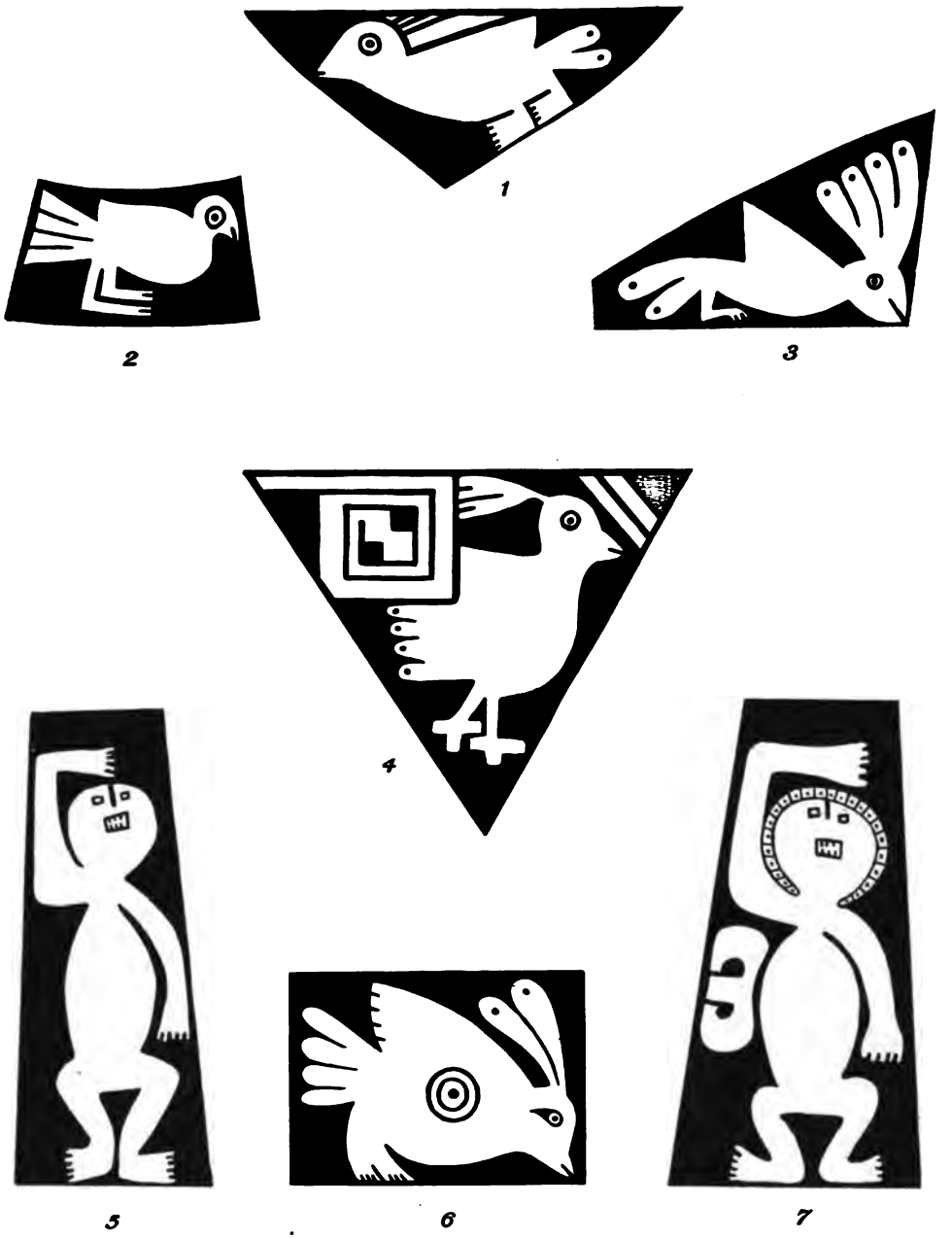

BIRD AND HUMAN FIGURES IN "NEGATIVE DRAWING"

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It is safe to say that the group belongs to the so-called Southwestern culture rather than to any Mexican culture at present known. This is shown by the structure of the vessels and the prevailing simplicity of their shapes (lack of complex forms, tripod types, the flat dish, etc.). The decoration also is Southwestern in general plan, as is evidenced by the use of bands with framing lines; by the formality of arrangement and the regular repetition of elements. Of the elements themselves, the interlocking scrolls, the triangles with bent appendages, and particularly the opposed stepped figures, are all typically Southwestern.

Qualities foreign to the bulk of Southwestern pottery are: the prevalence of effigy vases and the erotic tendencies of some of them; the use of negative drawing as a means of decoration; and probably the appearance of the plumed serpent.

Whether the club-like element and its derivatives should be considered as of local origin or as an importation from the South depends on whether it is believed to be the product of a broken-down naturalistic system or to be of geometrical origin. In the former case it is possibly Mexican; in the latter it may perfectly well be Southwestern.

We conclude, then, that Casas Grandes pottery is a highly specialized and somewhat aberrant sub-group of the great Southwestern family which, owing to its position on the southern frontier of the Pueblo country has been considerably influenced, probably during the formative period, by the ceramic art of Mexico.

Beyond the fact that Casas Grandes ware is Southwestern, we cannot at present go; we cannot as yet, for example, trace any genetic relationship between it and any other Puebloan group. Of contact relationships, however, we do get a few hints. As was mentioned in describing the decoration, certain vessels were found to be strongly suggestive of Lower Gila (Casa Grande) ware. Furthermore there is in the Museum of the American Indian a vessel ($\frac{4}{8104}$) typical of the Lower Gila style in clay, shape, decoration, and even in the line-break, a feature not found at Casas Grandes even in the Lower Gila-like specimens just mentioned. In the Peabody Museum there is from Los Guanacos, lower Gila, a pottery parrot-head (H-3867), broken from its parent vessel. This specimen came, without much doubt, from such a Casas Grandes bird-pot as that shown on plate II, figure 7. Too much reliance should not be placed on single finds of this sort, and it is of course possible that the jar in the Museum of the American Indian (being in a purchased collection) may have actually been found on the lower Gila. I think on the whole, however, that it is safe to

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assume that the two cultures were contemporaneous, and held at least a limited intercourse. This presumption is further borne out by similarities in architecture, in shellwork, and in stone implements (the straight-backed, three-quarter grooved ax is practically confined to these two cultures).

The newly discovered Mimbres group of pottery[1] seems also to be in some way connected with that of Casas Grandes, although there are so few data available that no certain conclusions can be reached. The remarkable naturalism of the Mimbres art is apparently a purely local efflorescence, neither parent to nor derived from the more limited naturalism of Casas Grandes, yet certain figures on Mimbres vessels[2] and the occasional use of negative drawing[3] strongly suggest intercourse between the two groups.[4]

As to the age of the Lower Gila and Mimbres cultures we know no more than we do about that of Casas Grandes. Dr Fewkes, basing his belief principally on a study of the house types, considers the Mimbres culture to have been a very early one. In this I am inclined to differ with him and to think that the Mimbres ware will be found to be a late and highly specialized form of the widespread black-and-white group.

The age of the great-house culture of the lower Gila is also unknown, but from its high development we are led to believe that it is fairly late in the general archeological history of the Southwest.

All that can be said at present, then, is that we have reasonable grounds for connecting the Casas Grandes group with other groups farther to the north. We may, in turn, be able to connect them with those of the Rio Grande and the Little Colorado, whose actual chronological positions are little by little becoming known to us. We must in any case have more data: from the Casas Grandes district itself; from the regions to the south of it in Old Mexico; and particularly from the lower reaches of the Rio Grande, where, if anywhere, we shall find the data necessary to connect these most interesting remains with those of the rest of the Pueblo area.

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[1] Fewkes in *Smithsonian Misc. Coll.*, vol. 63, no. 10.
[2] Fewkes, ibid., figs. 27, 28.
[3] Ibid., fig. 18.
[4] The Mimbres river drains into the Chihuahua basin.

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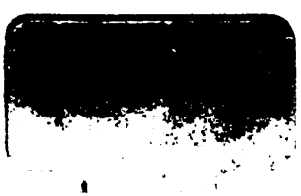

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